REMARKS/ARGUMENTS

Favorable consideration of this application in light of the following discussion is respectfully requested.

Claims 1, 3-11, 13-18, 20-25, and 27-30 are pending in the application and Claims 1, 11 and 18 amended by the present amendment.

In the outstanding Office Action, the drawings were objected to; Claims 1, 3-6, 10, 11, 13-16, 18, 20-25 and 27-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lahat et al. (U.S. Patent No. 6,233,074, hereinafter Lahat) in view of Chin et al. (U.S. Patent No. 6,314,110, hereinafter Chin); and Claims 7-9 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lahat in view of Chin and Graves et al. (U.S. Patent No. 6,229,788, hereinafter Graves).

The specification is amended without the introduction of new matter. Claims 1, 11 and 18 are amended to more clearly describe and distinctly claim Applicants' invention. Support for amended claims is found in Applicants' originally filed specification.[1] No new matter is added.

Briefly recapitulating, amended Claim 1 is directed to a metropolitan area packet rings including a) a fiber optic loop carrying asynchronous data packets, wherein the asynchronous data packets flow in a single direction through the fiber optic loop; and b) a plurality of metropolitan packet switches coupled to the fiber optic loop. A metropolitan packet switch includes c) an I/O port coupled to the fiber optic loop which inserts packets of data onto the fiber optic loop and which pulls packets of data off the fiber optic loop; and d) a processor coupled to the I/O Port which separately regulates data packets transmitted over the fiber optic loop on a per-flow basis, wherein quality of service is maintained on said per-flow basis. Claims 11, 18 and 25 are directed to alternative embodiments of Applicants'

[1] Figures 4-5.

invention. Applicants claimed invention allows for flow-specific bandwidth and QOS control.

Lahat describes an optical add drop module (OADM) configured to enable the construction of ring networks. WDM is utilized to construct a ring type network suitable for use in both WAN and LAN environments. The network is constructed having a ring topology with a plurality of nodes connected around the ring in daisy chain fashion. Direct connections between any two end users can be established to permit unicast connections. Multicast connections are also possible from a source to several destinations. Each unicast or multicast connection between nodes utilizes a separate specific wavelength. Devices are connected to the ring network via an optical add drop module. Wavelengths pass optically through the OADM device on nodes that are intermediary to the two end nodes on either side of the connection. Only the two end nodes transmit or pickup the optical signals on that particular wavelength corresponding to the connection. Capacity in the network is easily increased by adding more optical channels on the fiber, with each channel comprising a different wavelength.[2]

Figure 5 of Lahat shows a plurality of nodes 102 on a ring 104. Each node includes an OADM to connect edge or core ATM devices to the ring.[3] However, Lahat does not describe or suggest a processor coupled to the I/O Port which separately regulates data packets, transmitted over the fiber optic loop, on a per-flow basis.

In other words, Lahat describes an OADM which is used to retrieve information from and send information to an optical ring. Additionally, Lahat describes sending different data channels over different optical wavelengths. However, Lahat does not describe or suggest regulating data packets themselves on a per-flow basis as is described in the independent claims. Thus, in a non-limiting example, flow 1 is an email flow and is cached while flow 2 is

[2] Lahat, abstract.
[3] Lahat, column 8. lines 21-43.

a streaming video flow and is switched. So the processor coupled to the I/O Port places data on and takes data off the optical ring based on the flow (either flow 1 or 2). In contrast, Lahat merely describes placing different channels into different wavelengths, however, Lahat does not describe any discrimination based on the flow.

Thus, Applicant respectfully submits that independent Claims 1, 11, 18 and 25 patentably distinguish over the teachings of Lahat.

Chin describes system and method for locally determining a fair allocated bandwidth for a network node configured to send and receive packets in an upstream direction and a downstream direction is disclosed. A local allocated bandwidth is allocated for locally generated network packets sent in the downstream direction. A minimum downstream available network bandwidth is determined from information received in the upstream direction. The local allocated bandwidth is adjusted based on the minimum downstream available network bandwidth and the local allocated bandwidth is used to govern whether a class of locally generated network packets is sent in the downstream direction.[4]

However, like Lahat, Chin does not disclose or suggest a processor coupled to the I/O Port which separately regulates data packets, transmitted over the fiber optic loop, on a per-flow basis.

In Chin, each node determines independently how much of the ring bandwidth it should use for transmitting its own data. Each node makes its determination based on traffic received and reports of available bandwidth sent to it from other nodes on the ring network. In one embodiment implemented on a bi-directional ring, reports of available bandwidth at other nodes are sent "upstream" in the direction opposite from the "downstream" direction that data is traveling. Network nodes evaluate how much of the network bandwidth is available to it for transmitting data and then send a message to other nodes on the network,

[4] Chin, abstract.

notifying them how much bandwidth is available. Each node evaluates the amount of bandwidth that it is using compared to the minimum bandwidth that is available to other nodes on the network based on the notifications it receives. If a node is using an unfairly large amount of bandwidth, then it decreases its usage until a fair result is reached.[5]

However, as noted above, Chin does not describe a processor coupled to the I/O Port which regulates data packets on a per-flow basis. Thus, respectfully submits that independent Claims 1, 11, 18 and 25 patentably distinguish over the teachings of Chin.

Therefore, Applicants respectfully submit that independent Claims 1, 11, 18 and 25, and the claims depending therefrom, patentably distinguish over Lahat and Chin, taken alone or in proper combination.

MPEP §706.02(j) notes that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Also, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Without addressing the first two prongs of the test of obviousness, Applicants submit that the Official Action does not present a *prima facie* case of obviousness because both Lahat and Chin fail to disclose all the features of Applicants' claimed invention.

[5] Chin, column 3, lines 15-34.

Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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